**Title of Lesson:** In Terms of Probability

**Subject:** Mathematics

**Grade level:** 3rd

**Teacher:** Lauren Spivey

**Objective(s):**

* Each student will participate in group game by choosing a term to fit the given situations and walk to the matching wall.
* Each student will individually decide which term fits the given situation and choose the appropriate card.
* Each student will write the term describing the outcome of a given situation on a card along with an explanation of the answer chosen.

**SCSDE Curriculum Standard(s) Addressed:**

* Standard 3-6 The student will demonstrate through the mathematical processes an understanding of organizing, interpreting, analyzing and making predictions about data, the benefits of multiple representations of a data set, and the basic concepts of probability.
  + Indicator 3-6.6 Predict on the basis of data whether events are *likely, unlikely, certain,* or *impossible* to occur.
* Standard 3-1 The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representations.

**Prerequisites:**

* Students should be able to use previous knowledge to predict an outcome.

**Materials/Preparation:**

* Flipchart with situations for 4 corners game
* Wall labels for 4 corners game (likely/probable, unlikely, certain, impossible)
* Access to website: <http://www.ixl.com/math/grade-3/certain-probable-unlikely-impossible>
* 4 colored index cards for each student (4 different colors)
* 1 white index card/post-it note for each student

**Procedures:**

* **Introductory Activity:** The lesson will begin with the introduction of the terms *likely, unlikely, certain,* and *impossible*.
  + Introduce the four terms in the context of non-mathematical situations. Present a given situation on the board and have the class will have to determine if it is *likely, unlikely, certain,* or *impossible* to occur.
  + Complete the first situation with the class, acting as a model, then incorporate the situations into a game for the students to participate more actively. The game will be played similar to four corners. Each word will be posted on the four walls of the room (one on each wall). Eight different situations will be presented on the board one at a time (2 situations per term) and for each one, the students will have to individually decide whether it is *likely, unlikely, certain,* or *impossible* to occur and will walk to that wall. Once everyone has chosen their wall, the group will discuss what the correct answer is and why.
    - MODEL - The sun will rise tomorrow. (certain)
    - MODEL - Trees will talk to us this afternoon. (impossible)
    - At recess we will play and not sit out. (likely)
    - Half of the class will be absent tomorrow. (unlikely)
    - Halloween is soon. (certain)
    - It will snow tomorrow. (unlikely)
    - People will eat food today. (certain)
    - Summer starts next week. (impossible)
    - You will have two birthdays this year. (impossible)
    - You will read a book at your desk. (likely)
* **Main Activity:** The class will come back together at their desks to prepare for the next activity.
  + To begin, each student will have 4 different colored index cards, each will be labeled with the various terms.
    - Yellow – CERTAIN
    - Green – LIKELY
    - Pink – UNLIKELY
    - Orange - IMPOSSIBLE
  + Then, the teacher will pull up the website: <http://www.ixl.com/math/grade-3/certain-probable-unlikely-impossible> on the board so that all of the students can see it.
  + The class will look at each problem as it is presented. Each time, students hold up the card with the term they think fits the problem on the board.
  + While students are holding up cards, ask them to share their explanations for choosing the card in the air.
  + Then, the choice with majority vote will be chosen. If chosen answer is incorrect discuss what the correct answer would be and why.
* **Closure:** To close the lesson, one last situation will be presented on the board.
  + Students will write whether it is *likely, unlikely, certain,* or *impossible* to occur on a notecard.
  + On the reverse side of the card, students will write an explanation of why they chose their answer.

**Assessment:**

* Notes will be made based on teacher observations of each student’s participation.
* Notes will be made based on teacher observations of incorrect answer choices of students during each activity.
* Each student will chose the most appropriate term for a given situation along with an explanation of the choice.

**Adaptations and Accommodations:**

* To accommodate struggling readers, each situation will be read aloud to the class.
* Extra wait time can be included before going over each question for students needing extra time to think through the problems presented.
* Examples will be modeled at the beginning of each activity so students have a better understanding of how to participate in the activity.

**Follow-up Lessons/Activities:**

* Students can play a game in which they work with a partner, are given a spinner with multiple colored sections and have to determine probability of choosing each color (in terms of *likely, unlikely, certain,* and *impossible*). Then, groups will switch spinners with different color patterns and repeat the process.

**Reflection:**